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Daily Lesson GAME Plan

Lesson Title: A Fence for Villacorta

Related Lessons: Multiplication

Grade Level: 3rd

Unit: Geometry

GOALS

California State Standards:

Geometry

1.0 Students choose and use appropriate units and measurement tools to quantify the properties of objects:

1.3 Find the perimeter of a polygon with integer sides.

2.0 Students describe and compare the attributes of plane and solid geometric figures and use their understanding to show relationships and solve problems:

2.3 Identify attributes of quadrilaterals (e.g., parallel sides for the parallelogram, right angles for the rectangle, equal sides and right angles for the square).

Number Sense

2.0 Students calculate and solve problems involving addition, subtraction, multiplication, and division:

2.2 Memorize to automaticity the multiplication table for numbers between 1 and 10.

2.4 Solve simple problems involving multiplication of multidigit numbers by one-digit numbers ($3,671 \times 3 = \underline{\quad}$).

2.7 Determine the unit cost when given the total cost and number of units.

2.8 Solve problems that require two or more of the skills mentioned above.

ISTE NETS-S

1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- a. Apply existing knowledge to generate new ideas, products, or processes
- b. create original works as a means of personal or group expression
- c. Use models and simulations to explore complex systems and issues

4. Critical Thinking, Problem Solving, and Decision Making

- a. identify and define authentic problems and significant questions for investigation
- b. plan and manage activities to develop a solution or complete a project
- c. collect and analyze data to identify solutions and/or make informed decisions
- d. Use multiple processes and diverse perspectives to explore alternative solutions

Instructional Objectives:

- As individuals, students will use Google Maps to find the perimeter of the school and other designated areas: blacktop and grass areas
- In groups, students will calculate the price for the fencing material (wood, decorative metal, vinyl or chain-link) at <http://www.lowes.com/pc_Fencing_4294858178_4294937087 >
- In groups, students will draw a picture of the fencing around the school and the designated areas to scale
- In groups, students will give a quick presentation of their findings
- Students will use perimeter in a real-life problem to understand the relevance of this math topic

ACTION

Before-Class Preparation: I will need to make sure <http://www.lowes.com/pc_Fencing_4294858178_4294937087 > works on the school network and add it to the network folder for easy access and supply construction paper, scratch paper, and rulers for students. I will also create the groups and assign each group a specific fencing material to focus on.

During Class

Time 3 hours	Instructional Activities: I will inform students that our principal, Mr. Martinez, chose our class to figure out how much it would cost to build a fence around our entire school, the playgrounds, and the grass areas. Students will then use Google Maps to see the layout of our school and find the perimeter of the designated areas. Two researchers from each group will find the measurements of the sides of our school property, and will then take the information back to the group where each student finds the perimeter individually. Each student needs to know how to find perimeter so this part is individual. Once students have completed this task, they will check their answers with one another. Then two other researchers will go to the Lowe's website to find out how much it would cost to use their assigned fencing material. They will take this information back to their group to calculate the cost of their fencing material. Next, students will draw a picture (or blueprint) for Mr. Martinez that is measured to scale using centimeters. Students need to include their conversion somewhere on the blueprint so the viewer understands their conversion.	Materials and Resources <ul style="list-style-type: none"> • Computers • Internet • Lowe's website • Construction paper • Scratch paper • Rulers • Pencils • Google Maps • Math notes if needed
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Note student groupings, environmental modifications needed, etc: Students will be in groups of 5 in which I will have a mixture of proficiencies so that students can assist one another when necessary. I will also assign roles (recorder, researcher, etc.) in each group so that the work is divided equally.

Environmental modifications: We only have five computers in our classroom, which is why there will only be two researchers from each group; this way there will be less traffic at the computers.

MONITOR

Ongoing Assessment(s): I will be circulating the room observing students at work. I will guide students when necessary. Students will have their regular chapter and unit tests at the appropriate time.

Accommodations and Extensions: To extend this activity, we can also find the area of the school property or various areas, such as the grass (if Mr. Martinez wants to plant new grass) or the blacktop (if Mr. Martinez wants to redo the asphalt).

Back-Up Plan: If the Lowe's website does not work on the school network, I will print a screen shot of each page with the fencing material and price so each group will have this information. If students are having too much trouble finding the perimeter from the Google Maps page, I will print a screen shot of this page as well so they can use a hard copy to physically measure the perimeter with a ruler.

EVALUATE AND EXTEND

Be specific and include the evaluation that you will use for this lesson: Students will evaluate their group members with a credit or no credit basis of whether their group mates participated/ contributed or not. Students will be graded upon the accuracy of their mathematic calculations and conversions. Did they find the perimeter and multiply correctly? Did they draw their blueprints to scale accurately?

LESSON REFLECTIONS AND NOTES: